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| BARNES & THORNBURG LLP | | | EXAMINER | |
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/541,338

Applicant(s)

GEOCKNER ET AL.

Examiner

Stephen J. Ralis

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 17 July 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 2-24 and 26-31 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 2-24 and 26-31 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 01 July 2005 and 10 January 2007 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

1. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Response to Amendment/Arguments

2. Applicant's arguments, see pages 1-6, filed 17 July 2007, with respect to the rejection(s) of claim(s) 2-24 and 26-31 under 35 U.S.C. 103(a) have been fully considered and are persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration, a new ground(s) of rejection is made in view of Kimura (U.S. Patent No. 4,886,955). Kimura discloses a beverage apparatus operable over a range of AC voltages comprising the structure as recited by Applicant.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.
4. Claims 2-24 and 26-31 rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.
5. Claims 2-24 and 26-31 are rejected under 35 U.S.C. 112, second paragraph, as being incomplete for omitting essential structural cooperative relationships of elements, such omission amounting to a gap between the necessary structural connections. See

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MPEP § 2172.01. The omitted structural cooperative relationships are: the DC voltage output and how it controls the operation of the heating element.

6. Claim 3 recites the limitation "a processor that signals the switch to close the switch" in lines 1-2. It is not definite to whether the processor is closing the switch or the switch is closing itself. Therefore, the recitation to "a processor that signals the switch to close the switch" is deemed indefinite.

Claim Rejections - 35 USC § 102

7. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

8. Claims 29-31 are rejected under 35 U.S.C. 102(b) as being anticipated by Kimura (U.S. Patent No. 4,886,955).

Kimura discloses a beverage apparatus (see Figure 1) that is operable over a range of AC voltages, the beverage apparatus including: a power supply (capacitor 39) having an input that couples to an AC voltage source (AC source 35), the power supply (capacitor 39) having a DC voltage output of substantially a predetermined value regardless of the AC voltage within the range of AC voltages (column 4, lines 24-29, 35-44); a heating element (heater 3) directly coupled to the AC voltage source (AC source 35) in parallel with the power supply (capacitor 39) (see Figure 2); and a controller (switching mechanisms 32, 34 / sensor, etc.) coupled to the DC voltage (capacitor 39)

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output to receive power from the power supply (capacitor 39) (see Figure 2), the controller being configured to control the operation of the heating element (column 3, line 65 – column 5, line 60).

9. With respect to claims 29 and 31, Kimura discloses providing a container (flask 5) for retaining a liquid to be heated (see Figure 1); providing a heating element (heater 3); coupling the heating element directly to the supply voltage regardless of whether the supply voltage is the domestic AC voltage or the foreign AC voltage (see Figure 2); providing a power supply (capacitor 39) capable of receiving a variety of input voltages; coupling an input of the power supply directly to the supply voltage regardless of whether the supply voltage is the domestic AC voltage or the foreign AC voltage (see Figure 2); providing a DC output from the power supply (capacitor 29) (column 4, lines 35-43); providing a controller (switching mechanisms 32, 34 / sensor, etc); coupling the controller (switching mechanisms 32, 34 / sensor, etc) to the DC output from the power supply (capacitor (39))(see Figure 2); operating user inputs to signal the controller coupled to the DC voltage output to control the operation of the heating element to heat liquid contained in a container (main power switch 26).

With respect to the limitations of claims 29 and 31 and the apparatus being operable by a supply voltage that is either a domestic AC voltage or a foreign AC voltage is being deemed intended use, it has been held that a recitation with respect to the manner in which a claim apparatus/process is intended to be employed does not differentiate the claimed apparatus/process from a prior art apparatus/process satisfying the claimed limitations. Kimura discloses an apparatus that is operated via an AC

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source (35). The examiner respectfully notes that the AC source may be either a domestic source (being a US patent) or a foreign source (inventor being Japanese).

With respect to the limitation of a power supply having an input that couples to an AC voltage source, the power supply having a DC voltage output of substantially a predetermined value regardless of the AC voltage within the range of AC voltages, Kimura explicitly discloses an AC voltage source (35) being connected in parallel to capacitor (39). Kimura further discloses that the controller (relays 32, 33) are driven by DC supply (column 4, lines 35-43). Even though the heater (3) is being driven by the AC source, the relays (32, 33) are driven by a DC supply, or DC power supply, that can only be the capacitor (39) (see Figure 2). In addition, the capacitor (39) will output a predetermined value independent of the AC voltage source or its range (see Figure 2). Furthermore, AC voltages are never constant and inherently fluctuate over a range and Kimura would output the predetermined value independent of the AC voltage source regardless of the range. Therefore, Kimura fully meets "a power supply having an input that couples to an AC voltage source, the power supply having a DC voltage output of substantially a predetermined value regardless of the AC voltage within the range of AC voltages" given its broadest reasonable interpretation.

With respect to the limitations of claims 2 and 27, Kimura discloses a switch (relay 32) that provides AC voltage to the heating element (heater 3). In regards to applying a different AC voltage depending on the area in which the apparatus is operated, AC voltage fluctuates regularly independent of location and is different in various locations as well. Kimura explicitly discloses an AC voltage source (35) providing AC current to

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the heater (3) regardless of the AC voltage source location or area of operation.

Therefore, Kimura fully meets "the controller comprises a switch that is closeable to apply a specific AC voltage to the heating element if the beverage apparatus is operated in an area with the specific voltage and to apply a different AC voltage to the heating element if the beverage heating apparatus is operated in an area with a different AC voltage" given its broadest reasonable interpretation.

With respect to the limitations of claim 3, Kimura discloses a solid state processor (see Figure 2) that provides a signal to open/close the relays (32, 33).

Therefore, Kimura fully meets "a processor that signals the switch to close the switch" given its broadest reasonable interpretation.

With respect to the limitations of claims 21, 22 and 23, Kimura discloses a power indication lamp (27) that is used for sensing temperatures (sensing temperatures being a notification/alarm of a certain temperature setting) coupled to the DC voltage output of the DC power supply (capacitor 39) (see Figure 2). Therefore, Kimura fully meets "a display to which the DC voltage output of the power supply is coupled", "light to which the DC voltage output of the power supply is coupled.", and "an alarm to which the DC voltage output of the power supply is coupled" given its broadest reasonable interpretation.

With respect to the limitations of 26, Kimura discloses thermal switches (29, 34) that are coupled to the controller (relay/sensor configuration) that are indicative to the temperature of the liquid in the container.

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With respect to the limitations of a control valve, Kimura discloses a control valve (21) comprising a shape memory alloy (2), a spring (23) and a valve body (24) which operates via the temperature of the air (column 3, lines 54-59).

As the reference meets all material limitations of the claims at hand, the reference is anticipatory.

Claim Rejections - 35 USC § 103

10. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

11. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

12. Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kimura (U.S. Patent No. 4,886,955).

Kimura discloses all of the limitations of the claimed invention, as previously set forth, except for the use of a triac instead of the use of a relay or solid state relay.

However, Miller teaches that a triac is an equivalent structure known in the art (column

4, line – column 5, line 2). Therefore, because these three switching elements were art recognized equivalents at the time the invention was made, one of ordinary skill in the art would have found it obvious to substitute a triac for a relay or solid state relay.

13. Claims 5-7, 11, 16 and 28 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kimura (U.S. Patent No. 4,886,955) in view of Herrick et al. (International Publication WO 00/11914).

Kimura discloses all of the limitations of the claimed invention, as previously set forth, except for a solenoid to which the DC voltage output of the power supply is coupled, wherein the solenoid is operable to dispense a beverage; valves (dispensing and refill valves) to which the DC voltage output of the power supply is coupled; and a sensor being a capacitance sensor.

However, utilizing a solenoid and valve to which DC voltage is coupled, is known in the art. Herrick et al., for example, teach a liquid pump (15) being a pump or solenoid and being electrically connected to the power supply and permitting flow of product (page 21, lines 19-20; see Figures 1, 17, 22) and inlet/refill and outlet/dispensing sealants (159, 161) functioning as valves having an electrical and fluid seal controllable via electrical connections 163 and 167 (page 23, lines 1-22). Such a DC powered mechanism provides the advantage of providing a non-gravitational control of the fluid flow through a fluid heating system, thereby inherently providing a more accurate means to control a valve.

Herrick et al. further teach that it is known to utilize temperature sensors and conductance sensors together in beverage dispensing apparatus (temperature sensor 19 and a conductance sensor; page 8, line 24 – page 9, line 19; page 18, line 24 - page 19, line 16; see Figures 1, 17, 22) to provide more information about the variables of the fluid to be heated (i.e. flow rate, temperature, conductance), thereby improving the closed control loop regulation of a beverage heating apparatus (page 19, lines 4-21).

It would have been obvious to one of ordinary skill in the art at the time of the invention was made to modify the gravitation/temperature dependent valve of the Kimura beverage heating apparatus with a solenoid valve and DC control thereof of Herrick et al. in order to provide a non-gravitational control of the fluid flow through a fluid heating system, thereby inherently providing a more accurate means to measure and control a valve. It would have further been obvious to one of ordinary skill in the art at the time of the invention was to modify Kimura with the addition of a conductance sensor in conjunction with the existing temperature sensor of Herrick et al. in order to provide more information about the variables of the fluid to be heated, thereby improving the closed control loop regulation of a beverage heating apparatus.

14. Claims 7-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kimura (U.S. Patent No. 4,886,955) in view of Funk (U.S. Publication No. 2001/0048958).

Kimura discloses all of the limitations of the claimed invention, as previously set forth, except for a concentrate dispenser within the beverage dispenser including a valve that is operable to dispense a beverage concentrate, a pump, having a rotatable shaft, that is operable to move the beverage concentrate and a sensor sensor sensing the speed at which the shaft rotates; and a display.

However, a beverage dispenser comprising a concentrate dispenser including a valve that is operable to dispense a beverage concentrate, a pump, having a rotatable shaft, that is operable to move the beverage concentrate and a sensor sensor sensing the speed at which the shaft rotates, as described by Funk, is known in the art. Funk teaches a concentrate dispenser (32) within the beverage dispenser (20) including a valve that is operable to dispense a beverage concentrate (gating device 62), a pump, having a rotatable shaft, that is operable to move the beverage concentrate (pump 60 being a peristaltic pump that inherently has a rotating shaft) and a sensor sensing the speed at which the shaft rotates (a variable speed pump 60 being controllable via a controller inherently has a sensor to control and sense the variable speeds; page 3, paragraph 27-28; see Figure 3) to precisely control amount of concentrate injected into the dilution stream of the beverage dispenser, thereby providing better control of the quality of the dispensed beverage. It would have been obvious to one of ordinary skill in the art at the time of the invention was made to modify Kimura with the concentrate dispenser an control thereof of Funk to precisely control amount of concentrate injected into the dilution stream of the beverage dispenser, thereby providing better control of the quality of the dispensed beverage.

15. Claim 13 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kimura (U.S. Patent No. 4,886,955) in view of Herrick et al. (International Publication WO 00/11914) as applied to claims 5-7, 11, 16 and 28 above, and further in view of Greenwald et al. (U.S. Publication No. 2004/0163546).

The Kimura-Herrick beverage heating apparatus combination discloses all of the limitations, as previously set forth, except for the apparatus further comprising a heated water tank and the heating element being operatively associated with the heating element and the sensor sensing the temperature of the heated water tank.

However, a pre-heated water tank for a beverage dispensing apparatus with a temperature sensor is known in the art. Greenwald et al., for example, teach a beverage heating apparatus comprising holding tanks at various temperatures (see Figures 1-4). Greenwald et al. further teach specific holding tank (2) that is maintained a temperature "T₁" which is lower than the output temperature of brewing coffee (page 2-3, paragraphs 37-38). Such a mechanism of a pre-heated temperature controlled reservoir tank provides the advantage of requiring less energy and time to perform the beverage heating at the time of serving, thereby inherently increasing the efficiency of the beverage heating apparatus. It would have been obvious to one of ordinary skill in the art at the time of the invention was made to modify the Kimura-Herrick beverage heating apparatus combination with a pre-heated reservoir tank and sensor therein associated with the heating element of Greenwald et al. in order to provide the advantage of

requiring less energy and time to perform the beverage heating at the time of serving, thereby inherently increasing the efficiency of the beverage heating apparatus.

16. Claim 13 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kimura (U.S. Patent No. 4,886,955) in view of Funk (U.S. Publication No. 2001/0048958) as applied to claims 7-12 above, and further in view of Greenwald et al. (U.S. Publication No. 2004/0163546).

The Kimura-Funk beverage heating apparatus combination discloses all of the limitations, as previously set forth, except for the apparatus further comprising a heated water tank and the heating element being operatively associated with the heating element and the sensor sensing the temperature of the heated water tank.

However, a pre-heated water tank for a beverage dispensing apparatus with a temperature sensor is known in the art. Greenwald et al., for example, teach a beverage heating apparatus comprising holding tanks at various temperatures (see Figures 1-4). Greenwald et al. further teach specific holding tank (2) that is maintained a temperature " T_t " which is lower than the output temperature of brewing coffee (page 2-3, paragraphs 37-38). Such a mechanism of a pre-heated temperature controlled reservoir tank provides the advantage of requiring less energy and time to perform the beverage heating at the time of serving, thereby inherently increasing the efficiency of the beverage heating apparatus. It would have been obvious to one of ordinary skill in the art at the time of the invention was made to modify the Kimura-Funk beverage heating apparatus combination with a pre-heated reservoir tank and sensor therein associated

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with the heating element of Greenwald et al. in order to provide the advantage of requiring less energy and time to perform the beverage heating at the time of serving, thereby inherently increasing the efficiency of the beverage heating apparatus.

17. Claims 14, 15 and 17-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kimura (U.S. Patent No. 4,886,955) in view of Funk (U.S. Publication No. 2001/0048958) as applied to claims 7-12 above, and further in view of Liverani et al. (U.S. Publication No. 2004/0163546).

The Kimura-Funk beverage heating apparatus combination discloses all of the limitations, as previously set forth, except for a cooling cabinet and a heat sink and temperature sensors sensing a portion of each component, and both being cooled by a fan coupled to the DC voltage output of the power supply.

However, a beverage dispensing apparatus comprising a cooling cabinet and a heat sink and both being cooled by a fan coupled to the DC voltage output of the power supply, as described by Liverani et al., is known in the art. Liverani et al. teach a conventional heat exchanger (5, 34; page 2, paragraphs 31, 35) capable of instantaneously heating water. Liverani et al. further teach that a cooling cabinet (loading compartment 45) for mixing the hot water with the appropriate mixer may be associated with a heat sink (Peltier cell 48) and a cooling fan 50 to cool the heat sink and thereby in return cool the cooling cabinet to prevent the decay of the product, thereby increasing the quality and enjoyment of the dispensed beverage (page 1, paragraphs 7-16; page 2-3, paragraph 36). It would have been obvious to one of

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ordinary skill in the art at the time of the invention was made to modify the Kimura-Funk beverage heating apparatus combination with the cooling cabinet / heat sink / fan cooling configuration of Liverani et al. to prevent the decay of the product, thereby increasing the quality and enjoyment of the dispensed beverage.

18. Claims 22-24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kimura (U.S. Patent No. 4,886,955) in view of Jarocki et al. (U.S. Patent No. 6,312,589).

To the degree it can be argued that Kimura does not teach "a display to which the DC voltage output of the power supply is coupled", "light to which the DC voltage output of the power supply is coupled.", and "an alarm to which the DC voltage output of the power supply is coupled", the additional reference is applied is applied to Kimura as set forth. In addition, Kimura discloses all of the limitations of the claimed invention, as previously set forth, except for an auxiliary power supply configured to convert the DC voltage output of the power supply to another power supply voltage.

However, a beverage dispensing apparatus having a light to which the DC voltage output of the power supply is coupled; an alarm to which the DC voltage output of the power supply is coupled; and an auxiliary power supply configured to convert the DC voltage output of the power supply to another power supply voltage, as described by Jarocki et al., is known in the art. Jarocki et al. teach a light (three color LED lamp indicators on the front of control box 45; column 8, lines 45-55; column 10, lines 25-44; see Figure 5D) and an alarm (column 8, lines 56-63; column 10, lines 44-50; see Figure

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5E) configured and controlled by an alarm circuit (180) which is provided power by an auxiliary power supply configured to convert the DC voltage output of the power supply to another power supply voltage (column 9, lines 55-58) to provide warnings for display and/or readout by the user, thereby providing a safer beverage dispensing device. It would have been obvious to one of ordinary skill in the art at the time of the invention was made to modify Kimura with the lamp, alarm and auxiliary power supply combination of Jarocki et al. to provide warnings for display and/or readout by the user, thereby providing a safer beverage dispensing device.

Remarks

19. Applicant is respectfully requested to provide recitation to more structure with respect to the beverage apparatus and its controllability. The examiner further respectfully requests applicant to remove functional language and intended use recitations with more positively recited limitations. Examples of such include "capable of", "when", "if", and "operable to".

Conclusion

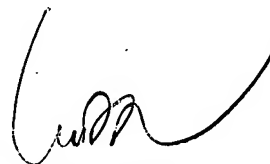
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Stephen J. Ralis whose telephone number is 571-272-6227. The examiner can normally be reached on Monday - Friday, 8:00-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Tu Hoang can be reached on 571-272-4780. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Stephen J Ralis
Examiner
Art Unit 3742

SJR
September 28, 2007



TU BA HOANG
SUPERVISORY PATENT EXAMINER